Diagnostic and Treatment of Snake Bites

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Snake bites are very common in many rural areas of Africa, Asia and Latin America. The victims, in general, are young adult males bitten during agricultural activities. Snake bites envenoming is one of the major neglected diseases of the 21st century. The data about the morbidity and mortality are limited but it's estimated, globally, at least 421,000 envenoming and 20,000 deaths each year and also that almost 1.2 million to 5.5 million snake bites could occur annually. The snakes related with the most severe cases of snake bite envenoming belong to Elapidae (cobras, kraits, mambas, Australasian species and sea snakes) and Viperidae (rattlesnakes, lance-headed pit vipers and true vipers) families. The families Atractaspididae and Colubridae are responsible for a small fraction of the snake bites with medical importance in Africa, Middle East and Central Asia. The genus *Echis* sp. (saw-scaled vipers) in northern Africa, *Naja* sp. (cobras) and *Bungarus* sp. (kraits) in Asia and *Bothrops* sp. in Latin America are responsible for significant numbers of severe cases and deaths. The snake venoms are a complex mixture of many families of toxins as haemorrhagins, neurotoxins, serinoproteases, phospolipases, myotoxins and others. The most frequent emergencies in snake bites are caused or a consequence a result of clotting and bleeding disturbances, rhabdomyolisis, intravascular haemolysis, muscle paralysis, local and systemic acute inflammation and consequent complications like severe hemorrhage, acute renal failure, acute respiratory failure, hypotension and shock, septicemia and severe local complications as compartmental syndrome, necrosis and amputation. The correct quantity of specific antivenom by the intravenous route, as soon as possible and supportive treatment are essential. The main challenges to control snake bites accidents are the production and large distribution of high quality antivenoms and extensive and systematic training of the health care workers about diagnosis and treatment of snake bites.

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Immunobiologicals in South America

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The Discovery of HIV

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Soon after, the first report of AIDS in the United States in 1981, similar cases were observed in France. In December 1982, a working group of clinicians contacted retrovirologists at the Institut Pasteur to work on the hypothesis that a retrovirus might be the cause of AIDS. Together, they define a successful strategy to isolate HIV from a patient at risk of AIDS. This discovery was the start of a collective adventure, which mobilized clinicians, multidisciplinary researchers and patients, altogether. Such a networking turned out to be very efficient for providing scientific evidences and for translating them rapidly into diagnosis, prevention and treatment of HIV infection. Since these early days, we have learnt that HIV infection is much more complex than initially thought. We have gained significant insights into the HIV biology and pathogenesis. Early virologic and immunologic events, particularly at mucosal sites, including the early virus dissemination, the establishment of viral reservoirs and the very rapid immune dysfunctions are critical in both HIV acquisition and/or disease progression.

Despite all the enormous progress made during the last 27 years at international level, HIV/AIDS epidemic still there. Research priorities still remain care, treatment and prevention. One of the major scientific challenges is to develop an efficient HIV/AIDS vaccine. Conventional immunization strategies may not be sufficient to elicit protection. We clearly need to elucidate the precise mechanisms that are governing the induction of protective immunity against HIV, taking into consideration the most recent advances in innate immunity and insights on early innate effectors that HIV can alter, including at mucosal sites. Lessons learned from distinct models of protection in human and non-human primates and new approaches, including systems biology will certainly contribute to novel concepts for future HIV vaccine research and development.

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MRSA: Disease mechanisms and control (Invited Presentation)

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Inducible Dormant MRSA

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Inducible Dormant (ID) MRSA are mecA gene-positive *S.aureus* isolates that change from initial MSSA phenotype to CA-MRSA phenotype after !-lactam antibiotic exposure .They can be identified by SCC *mec* type. ID-MRSA has been reported in both hospital and community settings.